



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Application Number	10/626,973
Filing Date	July 25, 2003
First Named Inventor	Ronald D. Blum
Art Unit	2873
Examiner Name	Jordan Marc Schwartz
Attorney Docket Number	63049.001003

Sheet 1 of 1

**U.S. PATENT DOCUMENTS**

*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
EL	1	US- 6,437,925	08-20-2002	Nishioka	— —
EL	2	US- 6,464,363	10-15-2002	Nishioka et al.	— —
EL	3	US- 6,626,532	09-30-2003	Nishioka et al.	— —
EL	4	US- 6,682,195	01-27-2004	Dreher	— —
	5	US-			
	6	US-			
	7	US-			
	8	US-			
	9	US-			
	10	US-			
	11	US-			
	12	US-			
	13	US-			
	14	US-			

**FOREIGN PATENT DOCUMENTS**

*Examiner Initials	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
		Country Code:	Number - Kind Code (if known)				YES	NO
EL	1	WO	03/050472 A1	06-19-2003	Horwitz	— —	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EL	2	WO	03/068059 A2	08-21-2003	Lai et al.	— —	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EL	3	WO	2004/008189 A1	01-22-2004	Lai et al.	— —	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EL	4	WO	2004/015481 A1	02-19-2004	Dreher et al.	— —	<input checked="" type="checkbox"/>	<input type="checkbox"/>
EL	5	WO	2004/034095 A2	04-22-2004	Lai	— —	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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EXAMINER SIGNATURE

DATE CONSIDERED

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Sheet	1	of	2	Attorney Docket Number	63049.001003
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## U.S. PATENT DOCUMENTS

*Examiner Initials	Cite No.	DOCUMENT NUMBER Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
gx	1	US- 5,386,308	1-31-1995	Michel et al.	349/11
	2	US-			
	3	US-			
	4	US-			
	5	US-			
	6	US-			
	7	US-			
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	11	US-			
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	13	US-			
	14	US-			

## FOREIGN PATENT DOCUMENTS

*Examiner Initial	Cite No.	FOREIGN PATENT DOCUMENT		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	TRANSLATION	
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8/19/04

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Art Unit	2873
Examiner Name	Jordan Marc Schwartz
Attorney Docket Number	63049.001003

Sheet 2 of 2

**OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS**

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	TRANSLATION	
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91	1	M. ANDERSON, "Adaptive Optics: Liquid Crystals Lower the Cost of Adaptive Optics", <u>Laser Focus World</u> , December 1999	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Sheet 1 of 1

Form PTO-1449 U.S. Department of Commerce  
(Rev. 8-83) Patent and Trademark Office

Atty. Docket No.: 63049.001003

Application No.: 10/626,973

**INFORMATION DISCLOSURE  
STATEMENT**

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date: July 25, 2003

Group: 2873

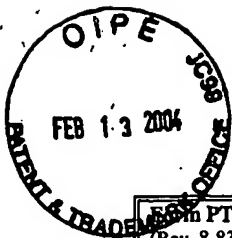
**U.S. PATENT DOCUMENTS**

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
91	1	6,709,108 B2	March 23, 2004	Levine, et al.	351	211	August 31, 2001
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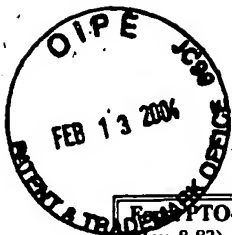
Date Considered:

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Form PTO-1449 (Rev. 8-83)		U.S. Department of Commerce Patent and Trademark Office		Atty. Docket No.: 63049.001003		Application No.: 10/626,973	
<b>INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)				Applicant: Ronald D. Blum et al.			
				Filing Date: July 25, 2003		Group: 2873	
<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
21	1	Re. 35,691	12/16/97	Theirl et al.	359	609	
21	2	D 298,250	10/25/88	Kildall	114	114	
21	3	D 342,063	12/7/93	Howitt et al.	114	114	
21	4	D 350,342	9/6/94	Sack	114	114	
21	5	2,437,642	3/9/48	Henroteau	88	41	
21	6	2,576,581	11/27/51	Edwards	88	41	
21	7	3,161,718	12/15/64	de Luca	88	57	
21	8	3,245,315	4/12/66	Marks et al.	359	254	
21	9	3,614,215	10/19/71	Mackta	351	41	
21	10	3,738,734	6/12/73	Tait et al.	359	665	
21	11	4,174,156	11/13/79	Glorieux	351	48	
21	12	4,181,408	1/1/80	Senders	351	159	
21	13	4,190,330	2/26/80	Berremman	349	200	
Examiner: <i>[Signature]</i>				Date Considered: 8/11/04			
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PTO-1449  
(Rev. 8-83)U.S. Department of Commerce  
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Atty. Docket No.: 63049.001003

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Applicant: Ronald D. Blum et al.

Filing Date: July 25, 2003

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**U.S. PATENT DOCUMENTS**

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
af	14	4,264,154	4/28/81	Peterson	351	49	
af	15	4,279,474	7/21/81	Belgorod	349	13	
af	16	4,300,818	11/17/81	Schachar	351	210	
af	17	4,373,218	2/15/83	Schachar	623	6.11	
af	18	4,395,736	7/26/83	Fræux	348	303	
af	19	4,418,990	12/6/83	Gerber	351	41	
af	20	4,457,585	7/3/84	DuCorday	359	441	
af	21	4,466,706	8/21/84	Lamothe, II	359	666	
af	22	4,529,268	7/16/85	Brown	359	601	
af	23	4,564,267	1/14/86	Nishimoto	359	483	
af	24	4,572,616	2/25/86	Kowel et al.	349	200	
af	25	4,577,928	3/25/86	Brown	359	499	
af	26	4,601,545	7/22/86	Kern	349	200	
af	27	4,609,824	9/2/86	Munier et al.	348	164	
af	28	4,712,870	12/15/87	Robinson et al.	359	738	
af	29	4,756,605	7/12/88	Okada et al.	349	13	

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Form PTO-1449  
(Rev. 8-83)U.S. Department of Commerce  
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Atty. Docket No.: 63049.001003

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Applicant: Ronald D. Blum et al.

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Group: 2873

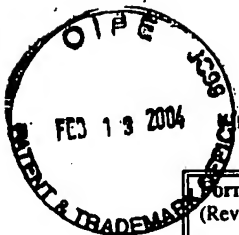
**U.S. PATENT DOCUMENTS**

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
QJ	30	4,772,094	9/20/88	Sheiman	359	466	
QJ	31	4,795,248	1/3/89	Okada et al.	351	158	
QJ	32	4,818,095	4/4/89	Takeuchi	351	159	
QJ	33	4,836,652	6/6/89	Oishi et al.	349	95	
QJ	34	4,880,300	11/14/89	Payner et al.	359	862	
QJ	35	4,904,063	2/27/90	Okada et al.	349	200	
QJ	36	4,907,860	3/13/90	Noble	349	15	
QJ	37	4,919,520	4/24/90	Okada et al.	349	13	
QJ	38	4,927,241	5/22/90	Kuijk	349	193	
QJ	39	4,929,865	5/29/90	Blum	313	478	
QJ	40	4,930,884	6/5/90	Tichenor et al.	359	863	
QJ	41	4,945,242	7/31/90	Berger et al.	250	367	
QJ	42	4,952,788	8/28/90	Berger et al.	250	208.1	
QJ	43	4,958,907	9/25/90	Davis	359	809	

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Form PTO-1449  
(Rev. 8-83)U.S. Department of Commerce  
Patent and Trademark Office

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Application No.: 10/626,973

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**U.S. PATENT DOCUMENTS**

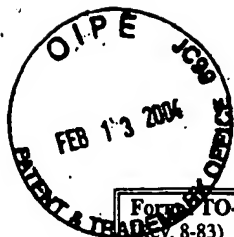
Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
Q1	44	4,961,639	10/9/90	Lazarus	351	41	
Q1	45	4,968,127	11/6/90	Russell et al.	351	44	
Q1	46	4,981,342	1/1/91	Fiala	359	494	
Q1	47	4,991,951	2/12/91	Mizuno et al.	351	41	
Q1	48	5,015,086	5/14/91	Okaue et al.	351	44	
Q1	49	5,030,882	7/9/91	Solero	313	418	
Q1	50	5,066,301	11/19/91	Wiley	623	6.13	
Q1	51	5,073,021	12/17/91	Marron	351	168	
Q1	52	5,076,665	12/31/91	Petersen	359	809	
Q1	53	5,091,801	2/25/92	Ebstein	359	665	
Q1	54	5,108,169	4/28/92	Mandell	351	161	
Q1	55	5,130,856	7/14/92	Tichenor et al.	359	851	
Q1	56	5,142,411	8/25/92	Fiala	359	494	
Q1	57	5,171,266	12/15/92	Wiley et al.	623	6.22	
Q1	58	5,182,585	1/26/93	Stoner	351	41	

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Form TO-1449 (Rev. 8-83)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.: 63049.001003	Application No.: 10/626,973
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**U.S. PATENT DOCUMENTS**

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
98	59	5,184,156	2/2/93	Black et al.	351	158	
91	60	5,200,859	4/6/93	Payner et al.	359	859	
91	61	5,208,688	5/4/93	Ferguson et al.	349	14	
91	62	5,229,885	7/20/93	Quaglia	359	665	
91	63	5,239,412	8/24/93	Naka et al.	359	619	
91	64	5,306,926	4/26/94	Yonemoto	259	432	
91	65	5,324,930	6/28/94	Jech, Jr.	250	216	
91	66	5,352,886	10/4/94	Kane	250	216	
91	67	5,359,444	10/25/94	Piosenka et al.	349	13	
91	68	5,375,006	12/20/94	Haas	349	120	
91	69	5,382,986	1/17/95	Black et al.	351	158	
91	70	5,440,357	8/8/95	Quaglia	351	158	
91	71	5,443,506	8/22/95	Gurabet	623	6.13	
91	72	5,451,766	9/19/95	Van Berkel	250	208.1	
91	73	5,488,439	1/30/96	Weltmann	351	58	

Examiner: <i>[Signature]</i>	Date Considered: <i>8/12/04</i>
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		Applicant: Ronald D. Blum et al.	
		Filing Date: July 25, 2003	Group: 2873

**U.S. PATENT DOCUMENTS**

Examiner Initial*		Document Number	Date	Name	Class	Subclass	Filing Date (if appropriate)
qf	74	5,522,323	6/4/96	Richard	168	10	
qf	75	5,608,567	3/4/97	Grupp	359	295	
qf	76	5,615,588	4/1/97	Gottschald	82	11	
qf	77	5,654,786	8/5/97	Bylander	351	49	
qf	78	5,712,721	1/27/98	Large	359	245	
qf	79	5,728,155	3/17/98	Anello et al.	623	6.41	
qf	80	5,739,959	4/14/98	Quaglia	359	666	
qf	81	5,777,719	7/7/98	Williams et al.	351	212	
qf	82	5,815,233	9/29/98	Morokawa et al.	349	200	
qf	83	5,861,936	1/19/99	Sorenson	351	200	
qf	84	5,900,720	5/4/99	Kallman et al.	320	167	
qf	85	5,949,521	9/7/99	Williams et al.	351	246	
qf	86	5,980,037	11/9/99	Conway	351	49	
qf	87	6,325,508	12/4/01	Decreton et al.	351	159	

**FOREIGN PATENT DOCUMENTS**

		Document Number	Date	Country	Class	Subclass	Translation	
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qf	1	WO 98/27863	7/2/98	WIPO	—	—		X
qf	2	0 154 962 A2	9/18/85	EPO	—	—		X

Examiner: *[Signature]* Date Considered: *8/17/04*

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Form PTO-1449 U.S. Department of Commerce  
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Application No.: 10/626,973

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Group: 2873

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		Document Number	Date	Country	Class	Subclass	Translation	
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01	3	0 233 104 A1	8/19/87	EPO				(Abstract)
01	4	0 237 365 A1	9/16/87	EPO				(Abstract)
01	5	1-237610	9/22/89	Japan				(Abstract)
01	6	2169417A	7/09/86	UK				X
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01	8	55-076323	6/9/80	Japan				(Abstract)

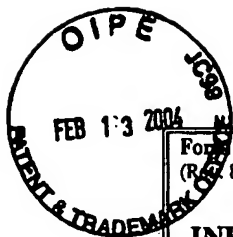
Examiner  
Initial\***OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

01	1	"Focusing by Electrical Modulation of Refraction in a Liquid Crystal Cell"; Stephen T. Kowel et al., <i>Applied Optics</i> , Vol. 23, No. 2, January 15, 1984, pp. 278-289					
01	2	"Computer Vision Syndrome - The Eyestrain Epidemic"; Robert A. Davis, O.D., <i>Review of Optometry</i> , September 15, 1997, pp. 80-88					
01	3	"The Use of Yoked Base-Up and Base-In Prism for Reducing Eye Strain at the Computer"; Stuart M. Lazarus, O.D., <i>Journal of the American Optometric Association</i> , April 1996, pp. 204-208					
01	4	<i>Eyecare Business</i> , October 1997 (entire issue)					
01	5	"Vision Through a Liquid-Crystal Spatial Light Modulator"; Larry N. Thibos et al., <i>Inpress</i> , Adaptive Optics Conference, Durham, United Kingdom, 1999					
01	6	"Requirements for Segmented Spatial Light Modulators for Diffraction-Limited Imaging Through Aberrated Eyes"; Larry N. Thibos et al., <i>Inpress</i> , Adaptive Optics Conference, Durham, United Kingdom, 1999					
01	7	"Use of Liquid-Crystal Adaptive-Optics to Alter the Refractive State of the Eye"; Larry N. Thibos et al., <i>Optometry and Vision Science</i> , Vol. 74, No. 7, July 1997					
01	8	"Electronic Spectacles for the 21 <sup>st</sup> Century", <i>Indiana Journal of Optometry</i> , Vol. 2, No. 1, 1999					
01	9	"Profile: Larry N. Thibos, Ph.D. and Donald Miller, Ph.D.", <i>Indiana Journal of Optometry</i> , Vol. 2, No. 1, pp. 5-10, 1999					

Examiner:

Date Considered:

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(Rev. 8-83) Patent and Trademark Office

Atty. Docket No.: 63049.001003

Application No.: 10/626,973

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Group: 2873

**U.S. PATENT DOCUMENTS**

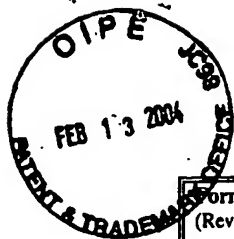
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q	5	5,682,223	10/28/97	Menezes et al.	623	6.28	
q	6	5,712,721	01/27/98	Large	359	245	
q	7	5,815,239	09/29/98	Chapman et al.	351	199	
q	8	5,953,098	09/14/99	Lieberman et al.	351	160R	
q	9	6,086,204	07/11/00	Magnante	351	212	
q	10	6,095,651	08/01/00	Williams et al.	351	246	
q	11	6,145,987	11/14/00	Baude et al.	351	169	
q	12	6,305,802	10/23/01	Roffman et al.	351	212	
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Patent and Trademark OfficeAtty. Docket No.:  
63049.001003Application No.:  
10/626,973**INFORMATION DISCLOSURE STATEMENT**

(Use several sheets if necessary)

Applicant: Ronald D. Blum et al.

Filing Date:  
July 25, 2003

Group: 2873

**FOREIGN PATENT DOCUMENTS**

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No

Examiner  
Initial\***OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)

EL	1	"Control Optimization of Spherical Modal Liquid Crystal Lenses"; A. F. Naumov and G. D. Love, <i>Optics Express</i> , Vol. 4, No. 9, April 26, 1999, pp. 344-352
EL	2	"Liquid Crystal Adaptive Lenses with Modal Control"; A. F. Naumov and M. Yu Loktev, <i>Optics Letters</i> , Vol. 23, No. 13, July 1, 1998, pp. 992-994
EL	3	"Liquid Lenses Eye Commercial Breakthrough" (Internet Article under "Optics.org"); from <i>Opto &amp; Laser</i> , November 2003

Examiner:

Date Considered:

8/12/04

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.